

Bibliometric Study of Scholarly Writing and Publishing Patterns Concerning Copyright and Digital Images

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Abstract— With the advancement of technology and the digital era, new forms of displaying and accessing information are prevalent. The literature on the subject of digital visual resources—specifically art images—and copyright reflects a concern about how best to educate the academic community about these issues. Likewise, copyright law is difficult to navigate because of the absence of clearly defined guidelines and legislation. Libraries are left to develop their own interpretations of fair use and other aspects of copyright law. The author provides a brief overview of the literature on the subject of copyright and digital art images and presents a bibliometric study to identify publishing patterns on the subject.

Introduction

Quick information retrieval systems like Google, Yahoo, and Bing provide the general population with answers to everyday questions, but they lack the scholarly information most academics require. However, faculty and researchers in the humanities disciplines turn frequently to these quick access information outlets for their image needs.¹ Because of their easy access, there is often confusion about crediting copyright when using these images. There are certain circumstances under the Fair Use Doctrine in the Copyright Act of 1976 which allow a person to use copyrighted material without permission. President Bill Clinton signed into law the Digital Millennium Copyright Act of 1998 (DMCA), which amended the Copyright Act of 1976 to encompass digital copyrighted material. The DMCA criminalizes copyright infringement when not used in conjunction with the practices granted under the Fair Use Doctrine.²

The use of visual images and the inadequacy of documentation have become a concern among those who create and use images in their scholarly or career endeavors. In the digital realm, where images can be reproduced easily, users may copy and paste images repeatedly without realizing they are committing copyright infringement. This is especially problematic if capital gain is involved.³

In addition to the Fair Use Doctrine, Congress added Section 108, known as the Library Copying Provision, which allows libraries to reproduce material without committing copyright infringement.⁴ In order to make copies of items libraries must meet three requirements: the library or archives must be open to the public; reproduction must not be made with any commercial intent—direct or indirect; and the copied item must include a notice of copyright.⁵

The Fair Use Doctrine and Section 108 are meant to encourage the endeavors of creators and to support access to knowledge for the public.⁶ Section 108 allows copying by libraries through interlibrary loan programs, but each library is permitted to make only a limited number of copies per item.⁷ In addition, Section 108 allows libraries to make digital copies for works that are damaged, deteriorated, lost, stolen, or that require obsolete technology to access the item.⁸

An example of the Fair Use Doctrine and Section 108 working together in the digital realm is the HathiTrust (<http://www.hathitrust.org/>), a collaboration of major universities that provides a systematic and controlled means of storing, managing, and discovering digital resources. Users of the HathiTrust can conduct basic and advanced bibliographic research with full-text search capability based on extracted text and a collection-builder tool. The HathiTrust addresses needs and concerns in academic libraries such as collection development, collection

management, quality, ingest and error rates, collaborative development, resource discovery, faculty research, and storage expansion needs.⁹ In contrast, Google utilizes self-serving formulas for ranking search results rather than providing the best/relevant information to fit the question. Companies like Google are not interested in the preservation of form or long-term indexing.¹⁰

At the heart of the Fair Use Doctrine and Section 108 is support for scholarship and research, two fundamental concepts for education. However, exceptions to copyright law that do not fall under protection are ideas, systems, or factual information conveyed in a work.¹¹ Section 107 defines acceptable uses such as criticism, comment, news, reporting, teaching, scholarship, and home use.¹² Additionally, defining applications of fair use becomes difficult in the digital realm because of three factors: electronic media makes it inexpensive to reproduce material; perfect copies of materials are now possible, and it is less expensive to produce electronic copies; and the ability to network means that information and the control of information are no longer in the hands of a few—everyone is now in the business of being a publisher.¹³

Items are protected by copyright whether they are published in print or electronically. Copyright can be shown in the digital realm through digital watermarking, digital signatures, encryption, and thumbnail reference images with passworded access to larger images. Restricting circulation and prohibiting the editing of copyrighted items also protect copyright holders' interests.¹⁴

Overview of Literature

Copyright infringement has been covered in trade publications like *ARTnews*, whose March 2012 issue cover asked, "Original Copies? The Art of Creative Re-Use." Barbara Pollack's article in this issue examined the complicated nature of copyright and fair use when it comes to digital tools. The author discusses how digital tools allow for easy transformation or appropriation and considers the use of images and their appropriation throughout history.

The renaissance artist Albrecht Dürer was the first to sue over copyright infringement. He sued artist Marcantonio Raimondi for making prints of his work and using his monogram.¹⁵ During the pop art movement, artists such as Robert Rauschenberg and Andy Warhol were found guilty of appropriation and had to pay fines to other artists.¹⁶ The musician Prince was successfully sued in 2011 for the usage of photographer Patrick Cariou's photos of Rastafarians in his book *Canal Zone*.¹⁷ Prince contended that he was using the images under the Fair Use Doctrine and "re-worked" the images to fit his own needs. However, the court ruled that "the transformation was not sufficient and could not be used for a commercial purpose."¹⁸ Pollack reviews how current copyright law has been difficult to interpret over time and remains the cause for much debate within the art community.

Historically, only art and design disciplines such as fine art, sculpture, architecture and photography used art images to promote learning in the classroom, and they have recently become multidisciplinary to encourage critical thinking and debate.¹⁹ Other humanities disciplines such as aesthetics, art history, philosophy, linguistics, psychology, visual perception, sociology, cultural anthropology, educational technology, and communication theory increasingly utilize images to support instruction.²⁰ Before digital formats, schools controlled the reproduction of images at the institutional level with the use of 35mm slides.²¹ However, digital formats have led to increased usage because of the massive amount of content and the ease of accessing and referencing it on the Internet.

To illustrate this point, Jennifer Mayer and Cheryl Goldenstein²² addressed the rising demand from faculty for digital images in library collections to incorporate into their lectures.

More recently, Joan Beaudoin and Jessica Evans Brady²³ completed a study on the uses of visual resources by archaeologists, architects, art historians, and artists because of the specific role visual images play in their type of work. There has been a shift from learning from text to the use of visual images, known as the “pictorial turn.”²⁴ Before this shift, images were typically used in conjunction with text to teach, but usually as a secondary source.²⁵ Most historians believed images should be used with caution because they have the capacity to distort the truth.²⁶ Those not trained to understand multiple symbols within an image, such as art historians, may not understand the intended context within an image. Many considered images too hard to comprehend because of their multiple meanings.

Incidentally, two-dimensional images such as advertisements, artist files, cartoons, drawings, paintings or prints, photographs, postcards, posters, images of regalia, specimens, objects and architecture, medical images, menus, maps, charts or graphics, typefaces, and similar visual images have found their way into other professional areas not considered in the design fields.²⁷ Through the study of images, one acquires an understanding of the subject and meaning of an image within the context of the culture that produced it.²⁸ For example, students studying an image of an African mask in anthropology will learn the ideologies of a culture, the techniques that create the mask, and the different meanings of symbols in the image.

An image may be used in a profession one way, but this does not mean it will be used or retrieved the same way in another.²⁹ For example, the *Mona Lisa* is a well-known painting by Leonardo DaVinci that is taught in beginning art history classes. However, other fields have adapted the art work to support the marketing of their products. *Mona Lisa* has been transitioned into Legos (Figure 1), zombies, and even some catchy memes.³⁰

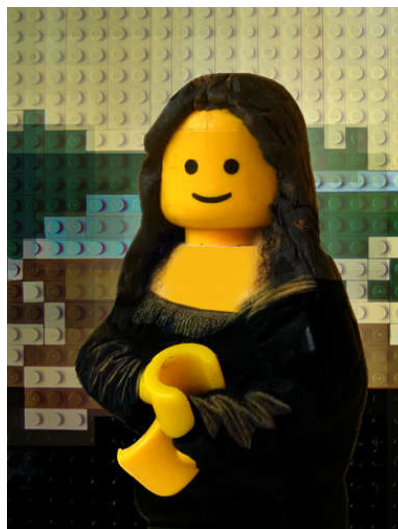


Figure 1. Marco Pece, *Monna Lego*, <http://www.udronotto.it/premio-arte-cairo-2010-milano/>. Image used with permission.

Also complicating the problem in the digital realm is the lack of uniform copyright policies and statements from one institution to the next. Several authors have completed studies verifying inadequacies in universities to provide their end users with applicable information regarding copyright. These studies identified a variety of statements which can be categorized into four different types: Specific Ownership, Vague Ownership, What You Can and Cannot Do, and Protecting Ourselves and You.³¹ The studies also exposed the deficiencies in institutions’

ability to manage and assess their own practices.³² Consequently, librarians who have the responsibility to provide copyright information to their end-users “must sift through a complex law with ambiguous court resolutions and decide what is allowable under Fair Use.”³³

Methodology

With the development of visual image resources, the number of articles on the topic of copyright and digital art images has increased. There is also a growing body of research about the subject of copyright and digital images in relation to digital visual literacy, the ability to use and interpret visual media effectively.³⁴ The purpose of this bibliometric study was to review the literature and identify publishing patterns on this important subject. Articles retrieved for the study were collected from the Library Literature and Information Science Full Text and Art & Architecture Complete databases available through EBSCO.

Library Literature and Information Science Full Text (LLIS) is dedicated to providing information on library concerns pertaining to funding, information literacy, censorship, government aid, public relations, and the development of new technologies and how these concerns impact the operations in a library. The LLIS database offers full-text articles from over 175 journals, dating back to 1980. It also indexes and provides abstracts to articles for almost 400 journals. Besides journals, the database offers indexing and abstracts for periodicals, state journals, conference proceedings, and books.³⁵

Art & Architecture Complete (AAC) is dedicated to serving art scholars, artists, designers, college students, and general researchers in the community. AAC provides information on antiques, art and art history, interior and landscape design, and anything related to the design fields.³⁶ The database offers articles dating back to 1937 available from 370 periodicals and more than 220 books. AAC also furnishes cover-to-cover indexing and abstracts for more than 780 academic journals, magazines, and trade publications, and 230 books. In addition to article access, the database offers a collection of more than 63,000 digital images from Picture Desk and other repositories.³⁷

The author limited her search in both databases to articles that were full-text, peer-reviewed, English language, and scholarly. To retrieve relevant articles, two different searches were completed in each database. The first search used the terms “copyright AND digital image.” The second search used “copyright AND digital art.” In order to retrieve all relevant articles, EBSCO’s option to allow full-text searching was applied. The study was completed in the spring of 2013 during the author’s final semester at the University of Southern Mississippi. Accordingly, only the articles published in 2001 through 2012 were considered for the study.

Once the articles had been retrieved, bibliographic data (author, journal name, year, and subject indexing terms) were entered into a Microsoft Excel spreadsheet.³⁸ Once all data had been entered, the sort feature was used to identify duplicate articles, articles with no author, or articles with no subject indexing terms. These were deleted for purposes of the study. Next, the sort feature was used to determine the most prolific authors, the journals that published the most articles on the subject, the year the most articles were published, and the most common subject indexing terms. This methodology helped to identify publishing patterns in literature on the subject. The result was a total of 698 articles available for the study.

Results

R1: During the period 2001–2012, which year had the most articles published?

The year 2008 had the most articles (eighty-nine) published on the subject of copyright and digital art images (Figure 2). The year producing the smallest number (twenty-five) was 2012. Two factors could be responsible for this reduced number: the topic could be trending to diminish in publication, or embargos prevented the articles from appearing immediately in full-text databases.

The data from the study indicate a surge of published articles in the years 2006–2009 with a decline beginning in 2010. The large number of articles in 2008 could be due to the copyright infringement court case *Cambridge University Press, Oxford University Press, Sage Publications v. Georgia State University* which began the same year.³⁹ Other years in the study also had notable copyright infringement cases involving academic institutions, the Authors Guild, and Google. The *Authors Guild v. Google Inc.* case in 2005 included the first suit by the Authors Guild against Google which claimed that no permission was gained from copyright holders for digital copies to be made available online.⁴⁰ In September 2011, the *Authors Guild vs. HathiTrust* case involved the Authors' Guild suing the HathiTrust for copyright infringement concerning the security of digital files.⁴¹ These major court cases ended in 2012 by way of summary judgments.⁴²

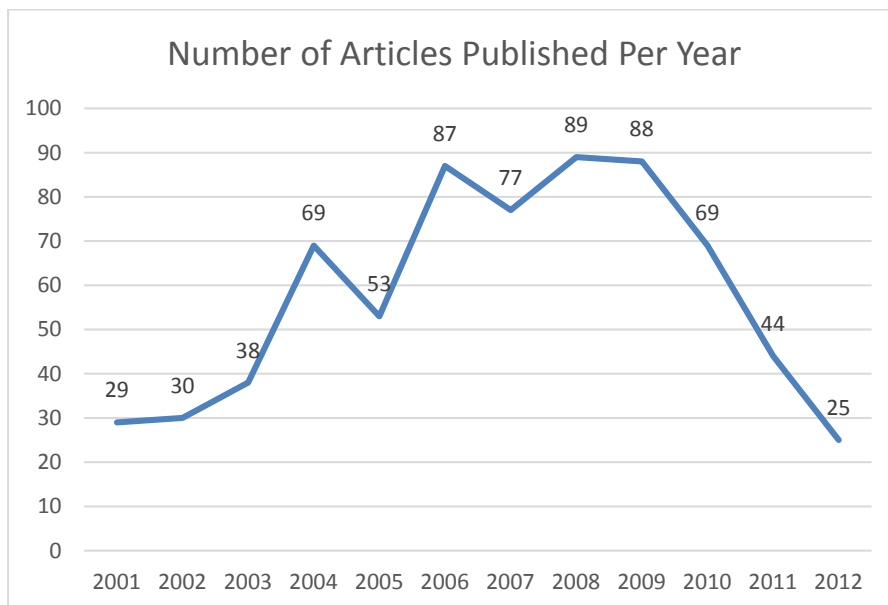


Figure 2. Number of articles on copyright and digital art images published per year from 2001–2012.

R2: Which journals published the most articles on the subject of copyright and digital art/ images?

Overwhelmingly, *Art Documentation* published the most articles (seventy-nine) at 11.32 percent of the articles in the study (Figure 3). *Art Documentation*, published by the Art Libraries Society of North America (ARLIS/NA), is a journal dedicated to encouraging the discussion of issues relating to both the documentation of art and the practice and theory of art librarianship and visual resources curatorship since 1982.⁴³ *Art Libraries Journal*, published by the Art Libraries Society of the United Kingdom and Ireland (ARLIS/UK) since 1976, produced the second greatest number of articles (sixty-three or 9.03 percent).⁴⁴ Just these two journals account for

20.34 percent of the articles included in the study. Additionally, *Leonardo*, a journal published by The International Society for the Arts⁴⁵ that focuses on the writings of artists who use science and developing technologies in their work, accounts for 3.72 percent of the published articles in the studied time period.

There are also three divisions of the American Library Association (ALA) that produced articles related to the research topic. The highest producing journal by a unit of ALA is *Information Technology and Libraries Journal*, published by the Library and Information Technology Association (LITA), which accounts for 4.44 percent of articles published.⁴⁶ Articles found in *Library Resources and Technical Services*, published by the Association for Library Collections Technical Services (ALCTS), make up 3.44 percent. The third journal is *College & Research Libraries Journal*, published by the Association of College & Research Libraries (ACRL), which produced 1.86 percent. The journals published by the ALA account for only about 9.74 percent of the articles in the study. This could suggest that the ALA has other interests or subjects about which it also needs to publish.

After compiling the data, one can begin to see the relevance of Bradford's Law, which states that "a small number of journals in a specific discipline will have the highest concentration of articles, while a large number of journals will have the lower concentration."⁴⁷ The analysis of the data indicates journals already devoted to subjects related to the field of art produce the majority of the articles on the subject of copyright and digital images.

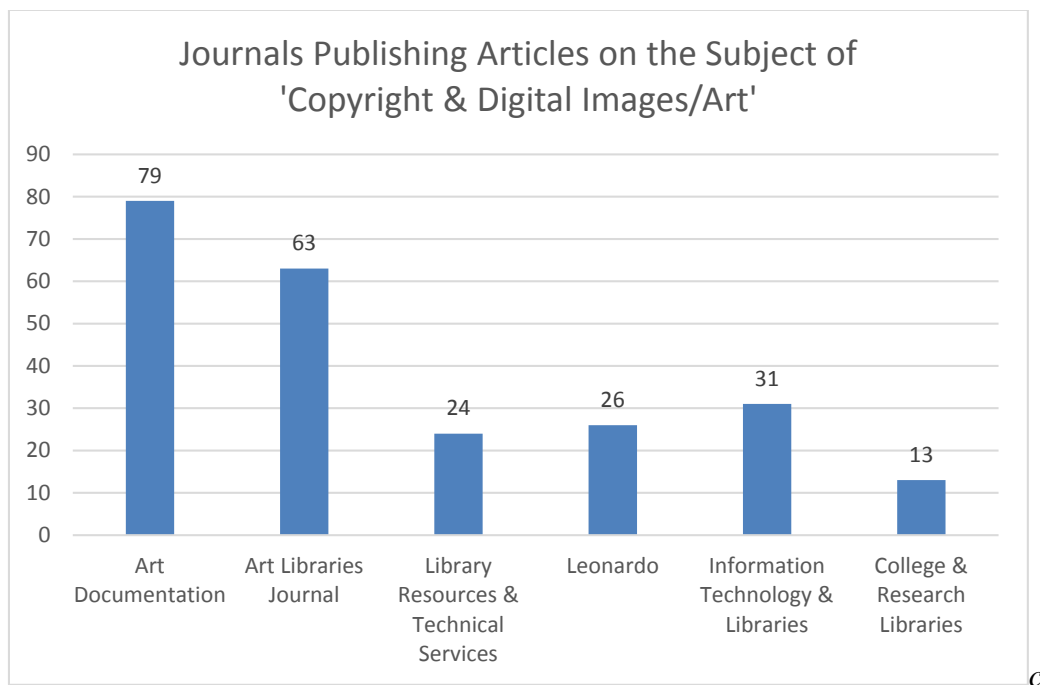


Figure 3. Number of articles on copyright and digital art images published during 2001–2010 in the six leading journals.

R3: Who are the most prolific authors publishing during the time frame studied?

The results of the study indicate there were more authors publishing only one article (94.02 percent) on the subject than authors producing many, supporting Lotka's Law.⁴⁸ Out of the total of 698 articles, only one author wrote five articles. Robert W. Sweeny published four articles in *Studies in Art Education* and one in *International Journal of Art & Design Education*. Much like

the other results already suggest, Sweeny published articles in journals dedicated to the arts. Additionally, Sweeny did not publish his articles in one year; he produced articles throughout the years 2004–2010. Out of the 698 articles published, 864 authors published only one article, forty-five authors published two articles, and nine authors published three articles.

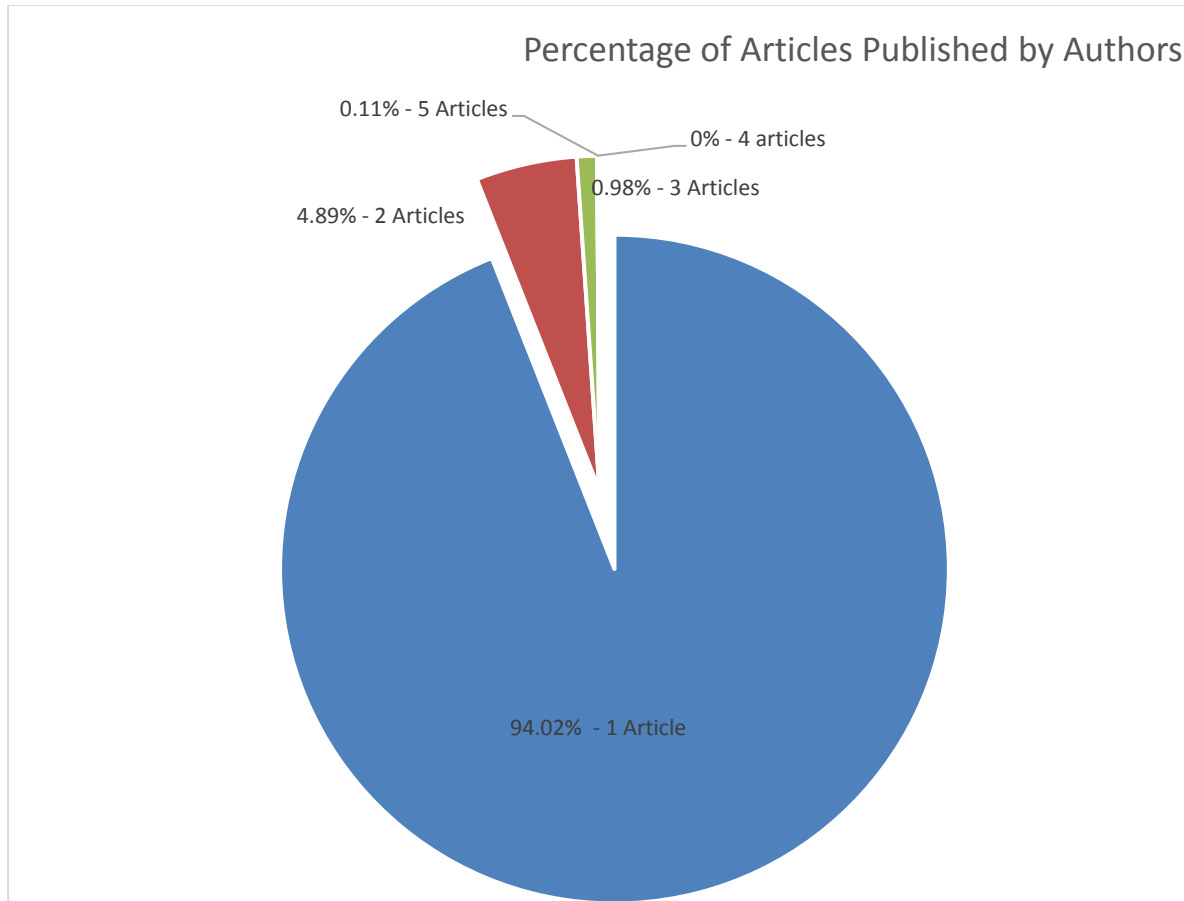


Figure 4. Number of articles on copyright and digital art images published by individual authors from 2001 to 2012.

R4: What are the common subject indexing terms used for the scholarly articles examined? The results of the study indicate that *art—study and teaching*, *optical computing*, *digital art*, *copyright*, and *academic libraries* are the most common subject indexing terms (Figure 5). Other general terms such as *art*, *art libraries*, *academic libraries*, *copyright*, and *digital art* were often coupled with another term to define exactly what aspect the article referenced. For example, *academic libraries* is often coupled with *aims and objectives*, *automation*, *collection development*, and/or the location of the library. The most commonly used term was *art*, usually coupled with *study and teaching*, but also seen with *technology* and *archives*.

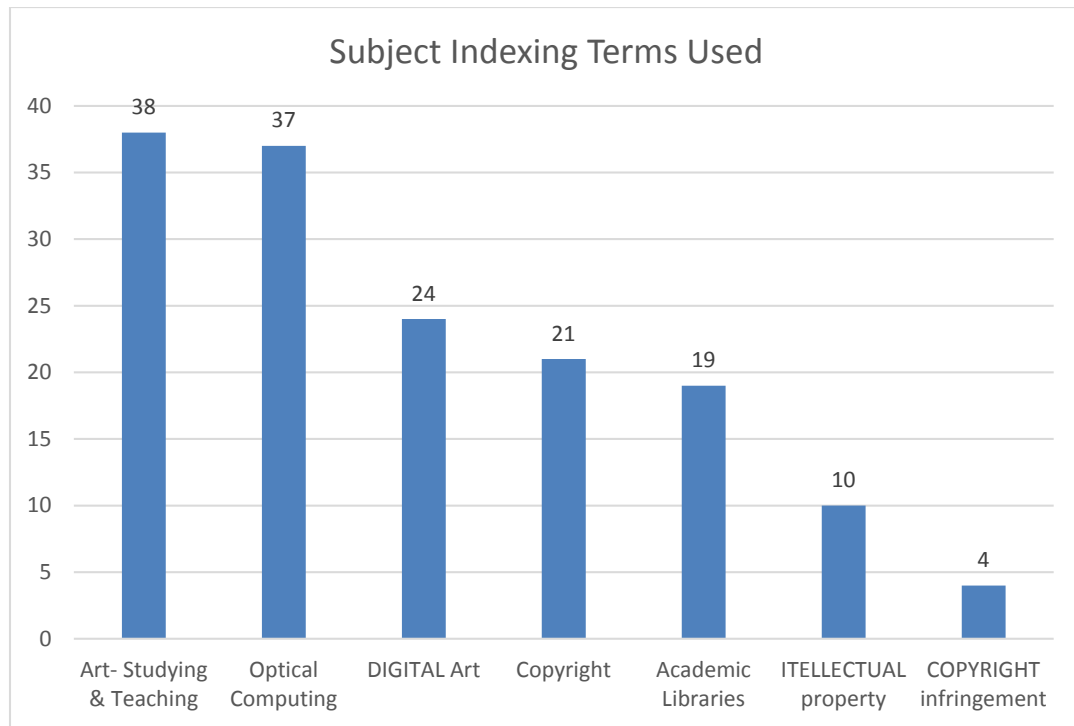


Figure 5. Subject terms used most often to index articles on copyright and digital art images published during 2001–2010.

Conclusion

Due to deficiencies in the Digital Millennium Copyright Act of 1998 and vague language and guidelines in copyright law, libraries have had to establish their own policies in developing digital image collections. The published literature on the subject of copyright and digital art images underscores the need for uniform guidelines across academia. Librarians and visual resources professionals need to work together to craft best practices to prevent copyright infringement within their constituencies. This study identifies the scholarly journals in which pertinent articles are most often published and provides the subject terms under which these articles are most often indexed. Professionals working with these issues must stay current with rapidly developing laws and court cases, and the author hopes that the results of this bibliometric study will help guide them to the best and most extensive sources of information on the topic.

Notes

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48. Lotka's Law describes the frequency of publication by authors in any given field. It states that the number of authors making n contributions is about $1/n^a$ of those making one contribution, where a nearly always equals two. In other words, the number of authors publishing a certain number of articles is a fixed ratio to the number of authors publishing a single article. As the number of articles published increases, authors producing that many publications become less frequent. *Wikipedia*, s.v. "Lotka's Law,"
http://en.wikipedia.org/wiki/Lotka%27s_law.